

COMPANY SANITIZED



Form Approved
OMB No. 2010-0019
Approval Expires 12-31-89

90-890000081

SANITIZED

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Comprehensive Assessment Information Rule
REPORTING FORM

When completed, send this form to:

Document Processing Center
Office of Toxic Substances, TS-790
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460
Attention: CAIR Reporting Office

For Agency Use Only:

Date of Receipt: _____

Document
Control Number: _____

Docket Number: _____

SECTION 1 GENERAL MANUFACTURER, IMPORTER, AND PROCESSOR INFORMATION

PART A GENERAL REPORTING INFORMATION

1.01 This Comprehensive Assessment Information Rule (CAIR) Reporting Form has been completed in response to the Federal Register Notice of..... 12 22 88
CBI mo. day year

☐ a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal Register, list the CAS No. 026471]-62]-5

b. If a chemical substance CAS No. is not provided in the Federal Register, list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the Federal Register.

(i) Chemical name as listed in the rule _____

(ii) Name of mixture as listed in the rule _____

(iii) Trade name as listed in the rule _____

c. If a chemical category is provided in the Federal Register, report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.

Name of category as listed in the rule _____

CAS No. of chemical substance]-]-

Name of chemical substance _____

1.02 Identify your reporting status under CAIR by circling the appropriate response(s).

CBI Manufacturer 1

☐ Importer 2

Processor **3**

X/P manufacturer reporting for customer who is a processor 4

X/P processor reporting for customer who is a processor 5

☐ Mark (X) this box if you attach a continuation sheet.

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI

☐ Yes ☒ Go to question 1.04

☐ No ☐ Go to question 1.05

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI

☐ Yes 1

☐ No 2

b. Check the appropriate box below:

☒ You have chosen to notify your customers of their reporting obligations

Provide the trade name(s)

☐ You have chosen to report for your customers

☐ You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI

☐ Trade name

Is the trade name product a mixture? Circle the appropriate response.

Yes 1

No 2

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI

☐ "I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

James E. Tracewski

NAME

James E. Tracewski

SIGNATURE

5-23-89

DATE SIGNED

Environmental Engineer

TITLE

(609)

443-2000

TELEPHONE NO.

☐ Mark (X) this box if you attach a continuation sheet.

- 1.07 Exemptions From Reporting -- If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You CBI ☐ are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.

"I hereby certify that, to the best of my knowledge and belief, all required information which I have not included in this CAIR Reporting Form has been submitted to EPA within the past 3 years and is current, accurate, and complete for the time period specified in the rule."

_____ NAME	_____ SIGNATURE	_____ DATE SIGNED
_____ TITLE	(_____) TELEPHONE NO.	_____ DATE OF PREVIOUS SUBMISSION

- 1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

CBI

- ☐ "My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

James E. Tracewski
NAME

James E. Tracewski
SIGNATURE

5-23-89
DATE SIGNED

Environmental Engineer
TITLE

(609) 443-2000
TELEPHONE NO.

☐ Mark (X) this box if you attach a continuation sheet.

1.09 Facility Identification

Dun & Bradstreet Number[0][6]-[9][3][7]-[7][0][4][2]
EPA ID Number^{MD}. [D][6][9][3][7][7][0][4][2]
Employer ID Number[1][3][3][3][4][6][3][6]
Primary Standard Industrial Classification (SIC) Code[2][8][2][1]
Other SIC Code[][][][]
Other SIC Code[][][][]

Dun & Bradstreet Number() () -() () () -() () ()
Employer ID Number() () () () () () () ()

6

[illegible]

CBI Name [R][O][L][A][N][D][P][B][A][K][U][N][A][S] Title [L][A][B][M][A][N][A][G][E][R] Address [6][4][0][1][C][H][E][M][I][C][A][L][R][O][A][D] Street
[B][A][L][T][I][M][O][R][E] City
[M][D] [2][1][2][2][6]-- Zip
Telephone Number [3][0][1]-[3][5][4]-[1][9][6][3]

☐ Mark (X) this box if you attach a continuation sheet.

[illegible][illegible]

8

1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

CBI

<u>Classification</u>	<u>Quantity (kg/yr)</u>
<input checked="" type="checkbox"/> Manufactured	_____
Imported	_____
Processed (include quantity repackaged)	_____
Of that quantity manufactured or imported, report that quantity:	
In storage at the beginning of the reporting year	_____
For on-site use or processing	_____
For direct commercial distribution (including export)	_____
In storage at the end of the reporting year	_____
Of that quantity processed, report that quantity:	
In storage at the beginning of the reporting year	_____
Processed as a reactant (chemical producer)	_____
Processed as a formulation component (mixture producer)	_____
Processed as an article component (article producer)	_____
Repackaged (including export)	_____
In storage at the end of the reporting year	_____

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

- 1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

☐

Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% \pm 0.5%)
<u>Toluene-2, 4-Diisocyanate</u>	<u>Mobay Chemical Corporation</u>	<u>80% \pm 0.1%</u>
<u>Toluene-2, 6-Diisocyanate</u>	<u>Mobay Chemical Corporation</u>	<u>20% \pm 0.1%</u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u>Total</u>		<u>100%</u>

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 2 MANUFACTURER, IMPORTER, AND PROCESSOR VOLUME AND USE

2.01 State the total number of years, including the reporting year, that your facility has
CBI manufactured, imported, or processed the listed substance.

☐

Number of years manufactured _____ yrs.
Number of years imported _____ yrs.
Number of years processed _____ yrs.

2.02 State the quantity of the listed substance that your facility manufactured, imported,
or processed during the corporate fiscal year preceding the reporting year.

CBI

☐

Year ending
Mo. Year

Quantity manufactured _____ kg
Quantity imported _____ kg
Quantity processed _____ kg

2.03 State the quantity of the listed substance that your facility manufactured, imported,
or processed during the 2 corporate fiscal years preceding the reporting year in
descending order.

CBI

☐

Year ending
Mo. Year

Quantity manufactured _____ kg
Quantity imported _____ kg
Quantity processed _____ kg
Year ending
Mo. Year

Quantity manufactured _____ kg
Quantity imported _____ kg
Quantity processed _____ kg

☐ Mark (X) this box if you attach a continuation sheet.

2.04 State the quantity of the listed substance that your facility manufactured, imported, or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

☒ Year ending ☐ ☐ ☐ ☐
Mo. Year

Quantity manufactured kg

Quantity imported kg

Quantity processed kg

Year ending ☐ ☐ ☐ ☐
Mo. Year

Quantity manufactured kg

Quantity imported kg

Quantity processed kg

Year ending ☐ ☐ ☐ ☐
Mo. Year

Quantity manufactured kg

Quantity imported kg

Quantity processed kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types.

CBI

☐ Continuous process 1

Semicontinuous process 2

Batch process 3

☐ Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all appropriate process types.

- ☐ Continuous process 1
- ☐ Semicontinuous process 2
- ☐ Batch process 3

2.07 State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.)

- ☐ Manufacturing capacity kg/yr
- ☐ Processing capacity kg/yr

2.08 If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.

<input type="checkbox"/>	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
Amount of increase			0
Amount of decrease			0

☐ Mark (X) this box if you attach a continuation sheet.

2.09 For the three largest volume manufacturing or processing process types involving the listed substance, specify the number of days you manufactured or processed the listed substance during the reporting year. Also specify the average number of hours per day each process type was operated. (If only one or two operations are involved, list those.)

CBI

☒ []

	<u>Days/Year</u>	<u>Average Hours/Day</u>
Process Type #1 (The process type involving the largest quantity of the listed substance.)		
Manufactured	_____	_____
Processed	_____	_____
Process Type #2 (The process type involving the 2nd largest quantity of the listed substance.)		
Manufactured	_____	_____
Processed	_____	_____
Process Type #3 (The process type involving the 3rd largest quantity of the listed substance.)		
Manufactured	_____	_____
Processed	_____	_____

2.10 State the maximum daily inventory and average monthly inventory of the listed substance that was stored on-site during the reporting year in the form of a bulk chemical.

CBI

☐ []

Maximum daily inventory _____ kg

Average monthly inventory _____ kg

☐ [] Mark (X) this box if you attach a continuation sheet.

2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

☐

<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct or Impurity¹</u>	<u>Concentration (%) (specify ± % precision)</u>	<u>Source of By-products, Coproducts, or Impurities</u>
	None			

¹Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct
C = Coproduct
I = Impurity

☐ Mark (X) this box if you attach a continuation sheet.

2.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

[☒]

a.	b.	c.	d.
Product Types ¹	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users ²

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

²Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

[☐] Mark (X) this box if you attach a continuation sheet.

2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

[k]

a.	b.	c.	d.
Product Types ¹	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users ²

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

²Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.14 Final Product -- Complete the following table for each type of final product manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity.

☐

a.	b.	c.	d.
Product Type ¹	Final Product's Physical Form ²	Average % Composition of Listed Substance in Final Product	Type of End-Users ³
NONE			

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

²Use the following codes to designate the final product's physical form: :

A = Gas	F2 = Crystalline solid
B = Liquid	F3 = Granules
C = Aqueous solution	F4 = Other solid
D = Paste	G = Gel
E = Slurry	H = Other (specify) _____
F1 = Powder	

³Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the
CBI listed substance to off-site customers.

- ☐ Truck 1
Railcar 2
Barge, Vessel 3
Pipeline 4
Plane 5
Other (specify) _____ 6

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers
or prepared by your customers during the reporting year for use under each category
CBI of end use listed (i-iv).

☐

Category of End Use

i. Industrial Products

Chemical or mixture 0 kg/yr
Article 0 kg/yr

ii. Commercial Products

Chemical or mixture 0 kg/yr
Article 0 kg/yr

iii. Consumer Products

Chemical or mixture 0 kg/yr
Article 0 kg/yr

iv. Other

Distribution (excluding export) -0 kg/yr
Export 0 kg/yr
Quantity of substance consumed as reactant 0 kg/yr
Unknown customer uses 0 kg/yr

☐ Mark (X) this box if you attach a continuation sheet.

2.17 State the quantity of the listed substance that you exported during the reporting
CBI year.

☐

In bulk kg/yr

As a mixture kg/yr

In articles kg/yr

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

PART A GENERAL DATA

- 3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.
CBI The average price is the market value of the product that was traded for the listed substance.

☒

<u>Source of Supply</u>	<u>Quantity (kg)</u>	<u>Average Price (\$/kg)</u>
The listed substance was manufactured on-site.	_____	_____
The listed substance was transferred from a different company site.	_____	_____
The listed substance was purchased directly from a manufacturer or importer.	_____	_____
The listed substance was purchased from a distributor or repackager.	_____	_____
The listed substance was purchased from a mixture producer.	_____	_____

- 3.02 Circle all applicable modes of transportation used to deliver the listed substance to your facility.

CBI

☒

Truck	1
Railcar	2
Barge, Vessel	3
Pipeline	4
Plane	5
Other (specify) _____	6

☐ Mark (X) this box if you attach a continuation sheet.

3.03 a. Circle all applicable containers used to transport the listed substance to your
CBI facility.

☐

Bags 1
Boxes 2
Free standing tank cylinders 3
Tank rail cars 4
Hopper cars 5
Tank trucks 6
Hopper trucks 7
Drums 8
Pipeline 9
Other (specify) _____ 10

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

Tank cylinders mmHg
Tank rail cars mmHg
Tank trucks mmHg

☐ Mark (X) this box if you attach a continuation sheet.

PART B RAW MATERIAL IN THE FORM OF A MIXTURE

3.04 If you obtain the listed substance in the form of a mixture, list the trade name(s) of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and the amount of mixture processed during the reporting year.

CBI

☐

<u>Trade Name</u>	<u>Supplier or Manufacturer</u>	<u>Average % Composition by Weight (specify \pm % precision)</u>	<u>Amount Processed (kg/yr)</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

PART C RAW MATERIAL VOLUME

3.05 State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

☐ [i]

	Quantity Used (kg/yr)	% Composition by Weight of Listed Sub- stance in Raw Material (specify \pm % precision)
Class I chemical	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
Class II chemical	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
Polymer	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

PART A PHYSICAL/CHEMICAL DATA SUMMARY

- 4.01 Specify the percent purity for the three major¹ technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

CBI

☐

	<u>Manufacture</u>	<u>Import</u>	<u>Process</u>
Technical grade #1	_____ % purity	_____ % purity	99.5 % purity
Technical grade #2	_____ % purity	_____ % purity	_____ % purity
Technical grade #3	_____ % purity	_____ % purity	_____ % purity

¹Major = Greatest quantity of listed substance manufactured, imported or processed.

- 4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes (1)

No 2

Indicate whether the MSDS was developed by your company or by a different source.

Your company 1

Another source (2)

☐ Mark (X) this box if you attach a continuation sheet.

4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes 1
 No (2)

4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

[]

Activity	Physical State				
	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	5
Import	1	2	3	4	5
Process	1	2	(3)	4	5
Store	1	2	(3)	4	5
Dispose	1	2	3	4	5
Transport	1	2	3	4	5

[] Mark (X) this box if you attach a continuation sheet.

- 4.05 Particle Size -- If the listed substance exists in particulate form during any of the following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles ≥ 10 microns in diameter. Measure the physical state and particle sizes for importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

☐

<u>Physical State</u>		<u>Manufacture</u>	<u>Import</u>	<u>Process</u>	<u>Store</u>	<u>Dispose</u>	<u>Transport</u>
Dust	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Powder	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Fiber	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Aerosol	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

PART B FIRE, EXPLOSION, AND OTHER HAZARD DATA

- 4.06 For each physical state of the listed substance, specify the corresponding flashpoint, and the test method used to derive the flashpoint value.

Solid

Flashpoint °C

Test method °C

Liquid

Flashpoint °C

Test method °C

Gas/Vapor

Flashpoint °C

Test method °C

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

-
- 4.07 Indicate the temperature at which the listed substance undergoes autopolymerization or autodecomposition.

Autopolymerizes at °C

Autodecomposes at °C

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

☐ Mark (X) this box if you attach a continuation sheet.

4.08 Indicate the flammable limits in air (% by volume) for the listed substance at standard temperature and pressure.

Lower limit **X**
Upper limit **X**

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes **1**
No **2**

☐ Mark (X) this box if you attach a continuation sheet.

- 4.09 Extinguishing Media -- Identify (Y/N/NA/UK) all known methods for extinguishing flames caused by each product type which contains the listed substance. (Refer to the instructions for the definition of Y, N, NA and UK.)

<u>Extinguishing Media</u>	<u>Product Types Containing the Listed Substance¹</u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Water	_____	_____	_____	_____	_____	_____
Foam	_____	_____	_____	_____	_____	_____
CO ₂	_____	_____	_____	_____	_____	_____
Dry chemical (e.g., sodium bicarbonate)	_____	_____	_____	_____	_____	_____
Halogenated hydrocarbon (e.g., carbon tetrachloride, methyl bromide)	_____	_____	_____	_____	_____	_____
Other (specify) _____	_____	_____	_____	_____	_____	_____

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes 1
 No 2

¹Identify the product types listed under each column (1-6) in the following table:

<u>Product Type No.</u>	<u>Product Type Identity</u>
1	_____
2	_____
3	_____
4	_____
5	_____
6	_____

☐ Mark (X) this box if you attach a continuation sheet.

- 4.10 Special Firefighting Procedures -- Identify (Y/N/NA/UK) all known restrictions on firefighting procedures used to combat fires caused by each product type which contains the listed substance. (Refer to the instructions for definitions of Y, N, NA and UK.)

<u>Special Firefighting Procedures</u>	<u>Product Types Containing the Listed Substance¹</u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Do not use water	_____	_____	_____	_____	_____	_____
Do not increase air pressure	_____	_____	_____	_____	_____	_____
Other (specify) _____	_____	_____	_____	_____	_____	_____

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Identify the product types listed under each column (1-6) in the following table:

<u>Product Type No.</u>	<u>Product Type Identity</u>
1	_____
2	_____
3	_____
4	_____
5	_____
6	_____

☐ Mark (X) this box if you attach a continuation sheet.

- 4.11 Incompatibility -- List all chemicals, materials, or categories of chemicals or materials that you know are incompatible with the listed substance and the reason why they are incompatible. (Refer to the instructions for further explanation and an example.)

<u>CAS No.</u>	<u>Name</u>	<u>Reaction (specify)</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes 1
No 2

- 4.12 Autoxidation -- Is the listed substance capable of autoxidation? Circle the appropriate response.

Yes 1
No 2
Unknown 3

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes 1
No 2

☐ Mark (X) this box if you attach a continuation sheet.

- 4.13 Indicate the autoignition temperature for the listed substance and the test method used to derive this value.

Autoignition temperature °C

Test method

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

- 4.14 Vapor in Cargo Tanks -- If storing the listed substance in a cargo tank causes vapor problems, such as peroxide formation, reaction with moisture, etc., specify the problem and necessary controls or restrictions used to remedy each problem.

Vapor Problem

Controls/Restrictions

Peroxide formation

Reaction with moisture

Combustion

Other (specify)

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

☐ Mark (X) this box if you attach a continuation sheet.

4.15 Shipment Procedures -- If you use an inhibitor or stabilizer when shipping the listed substance in bulk form, specify its name, whether it inhibits or stabilizes the listed substance, the amount normally added, and the duration of its effectiveness. . .

CBI

☐

<u>Name of Additive</u>	<u>Inhibitor or Stabilizer¹</u>	<u>Amount Normally Added (ppm or %)</u>	<u>Duration of Effectiveness (specify units)</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Use the following codes to designate inhibitor and stabilizer:

I = Inhibitor
S = Stabilizer

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 5 ENVIRONMENTAL FATE

PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS

5.01 Indicate the rate constants for the following transformation processes.

a. Photolysis:

Absorption spectrum coefficient (peak) unknown (1/M cm) at _____ nm

Reaction quantum yield, ϕ unknown at _____ nm

Direct photolysis rate constant, k_p , at ... unknown 1/hr _____ latitude

b. Oxidation constants at 25°C:

For 1O_2 (singlet oxygen), k_{ox} unknown 1/M hr

For RO_2 (peroxy radical), k_{ox} unknown 1/M hr

c. Five-day biochemical oxygen demand, BOD_5 ... unknown mg/l

d. Biotransformation rate constant:

For bacterial transformation in water, k_b ... unknown 1/hr

Specify culture _____

e. Hydrolysis rate constants:

For base-promoted process, k_b unknown 1/M hr

For acid-promoted process, k_a unknown 1/M hr

For neutral process, k_n unknown 1/hr

f. Chemical reduction rate (specify conditions) unknown

g. Other (such as spontaneous degradation) ... _____

☐ Mark (X) this box if you attach a continuation sheet.

PART B PARTITION COEFFICIENTS

5.02 a. Specify the half-life of the listed substance in the following media.

<u>Media</u>	<u>Half-life (specify units)</u>
Groundwater	unknown
Atmosphere	unknown
Surface water	unknown
Soil	unknown

b. Identify the listed substance's known transformation products that have a half-life greater than 24 hours.

<u>CAS No.</u>	<u>Name</u>	<u>Half-life (specify units)</u>	<u>Media</u>
unknown			in
			in
			in
			in

5.03 Specify the octanol-water partition coefficient, K_{ow} ... unknown at 25°C
 Method of calculation or determination

5.04 Specify the soil-water partition coefficient, K_d unknown at 25°C
 Soil type

5.05 Specify the organic carbon-water partition coefficient, K_{oc} unknown at 25°C

5.06 Specify the Henry's Law Constant, H unknown atm-m³/mole

☐ Mark (X) this box if you attach a continuation sheet.

5.07 List the bioconcentration factor (BCF) of the listed substance, the species for which it was determined, and the type of test used in deriving the BCF.

<u>Bioconcentration Factor</u>	<u>Species</u>	<u>Test</u> ¹
unknown		

¹Use the following codes to designate the type of test:

F = Flowthrough
S = Static

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 6 ECONOMIC AND FINANCIAL INFORMATION

6.01 Company Type -- Circle the number which most appropriately describes your company.

CBI

- ☐ Corporation 1
- ☐ Sole proprietorship 2
- Partnership 3
- Other (specify) _____ 4

6.02 At the end of the reporting year, were you constructing additional facilities at this site that were not yet in operation at the end of the reporting year, but which are now being used or will be used in the future for manufacturing, importing, or processing the listed substance? Circle the appropriate response.

CBI

- ☐ Yes 1
- No 2

6.03 List all of the product types that you manufacture that contain the listed substance as a raw material, and the percentage of the name-plate capacity dedicated to the listed substance that each product type represents. The total of all capacity percentiles should equal 100 percent. State the total name-plate capacity of the process type(s) used to manufacture all product types that contain the listed substance.

CBI

☐

Product Type	% Total Capacity
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

State the total name-plate capacity of the process type(s) used to manufacture all product types that contain the listed substance: _____ kg/yr

☐ Mark (X) this box if you attach a continuation sheet.

6.04 For each market listed below, state the quantity sold and the total sales value of
CBI the listed substance sold or transferred in bulk during the reporting year.

☐

<u>Market</u>	<u>Quantity Sold or Transferred (kg/yr)</u>	<u>Total Sales Value (\$/yr)</u>
Retail sales	_____	_____
Distribution -- Wholesalers	_____	_____
Distribution -- Retailers	_____	_____
Intra-company transfer	_____	_____
Repackagers	_____	_____
Mixture producers	_____	_____
Article producers	_____	_____
Other chemical manufacturers or processors	_____	_____
Exporters	_____	_____
Other (specify)	_____	_____
_____	_____	_____

6.05 Substitutes -- List all known commercially feasible substitutes that you know exist
for the listed substance and state the cost of each substitute. A commercially
feasible substitute is one which is economically and technologically feasible to use
CBI in your current operation, and which results in a final product with comparable
performance in its end uses.

☐

<u>Substitute</u>	<u>Cost (\$/kg)</u>
_____	_____
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

6.06 State your average total and variable costs of manufacturing, importing, and processing the listed substance during the reporting year. (For an explanation of these costs, refer to the instructions.)

☐

Average Total Costs

Manufacturing \$/kg

Importing \$/kg

Processing \$/kg

Average Variable Costs

Manufacturing \$/kg

Importing \$/kg

Processing \$/kg

6.07 State your average purchase price of the listed substance, if purchased as a raw material during the reporting year.

CBI

☐ Average purchase price \$/kg

6.08 State your company's total sales and sales of the listed substance sold in bulk for the reporting year.

CBI

☐

Year ending ☐ ☐ ☐ ☐
Mo. Year

Company's total sales (\$)

Sales of listed substance (\$)

☐ Mark (X) this box if you attach a continuation sheet.

6.09 State your company's total sales and sales of the listed substance sold in bulk for
CBI the corporate fiscal year preceding the reporting year. (Refer to the instructions
for question 6.08 for the methodology used to answer this question.)

☐

Year ending
Mo. Year

Company's total sales (\$)

Sales of listed substance (\$)

6.10 State your company's total sales and sales of the listed substance sold in bulk for
CBI the 2 corporate fiscal years preceding the reporting year in descending order.
(Refer to the instructions for question 6.08 for the methodology used to answer this
question.)

☐

Year ending
Mo. Year

Company's total sales (\$)

Sales of listed substance (\$)

Year ending
Mo. Year

Company's total sales (\$)

Sales of listed substance (\$)

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

General Instructions:

For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

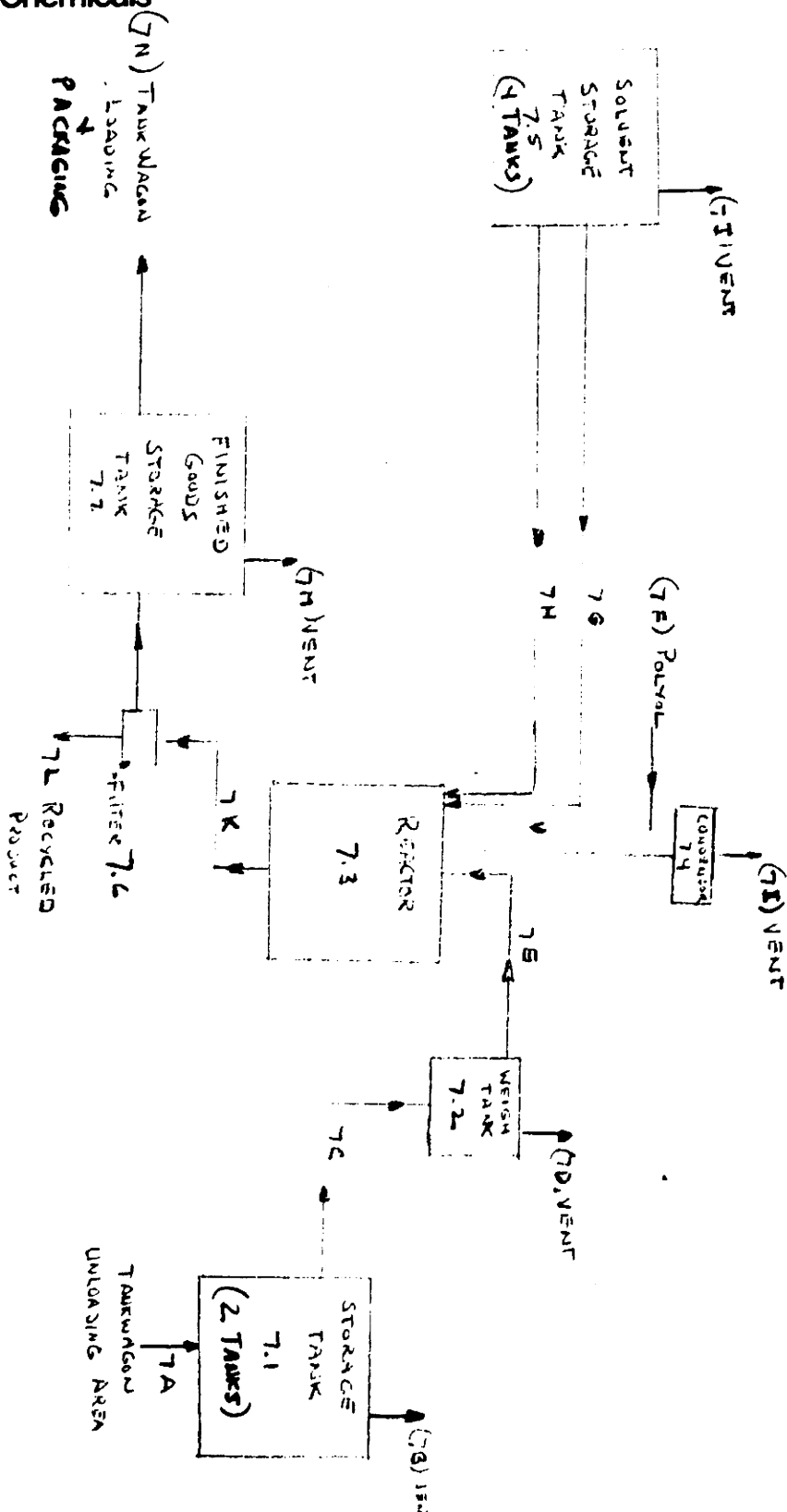
CBI

[1] Process type _____

[☐] Mark (X) this box if you attach a continuation sheet.

Spencer Kellogg Products

Chemicals



BATCH PROCESS - BLOCKED URETHANE
 - Moisture Cures URETHANE
 - OR Modified URETHANE
 All THREE MAJOR PROCESSING SIMILAR
 URETHANE POLYMER

7.02 In accordance with the instructions, provide a separate process block flow diagram showing each of the three major (greatest volume) process types involving the listed substance.

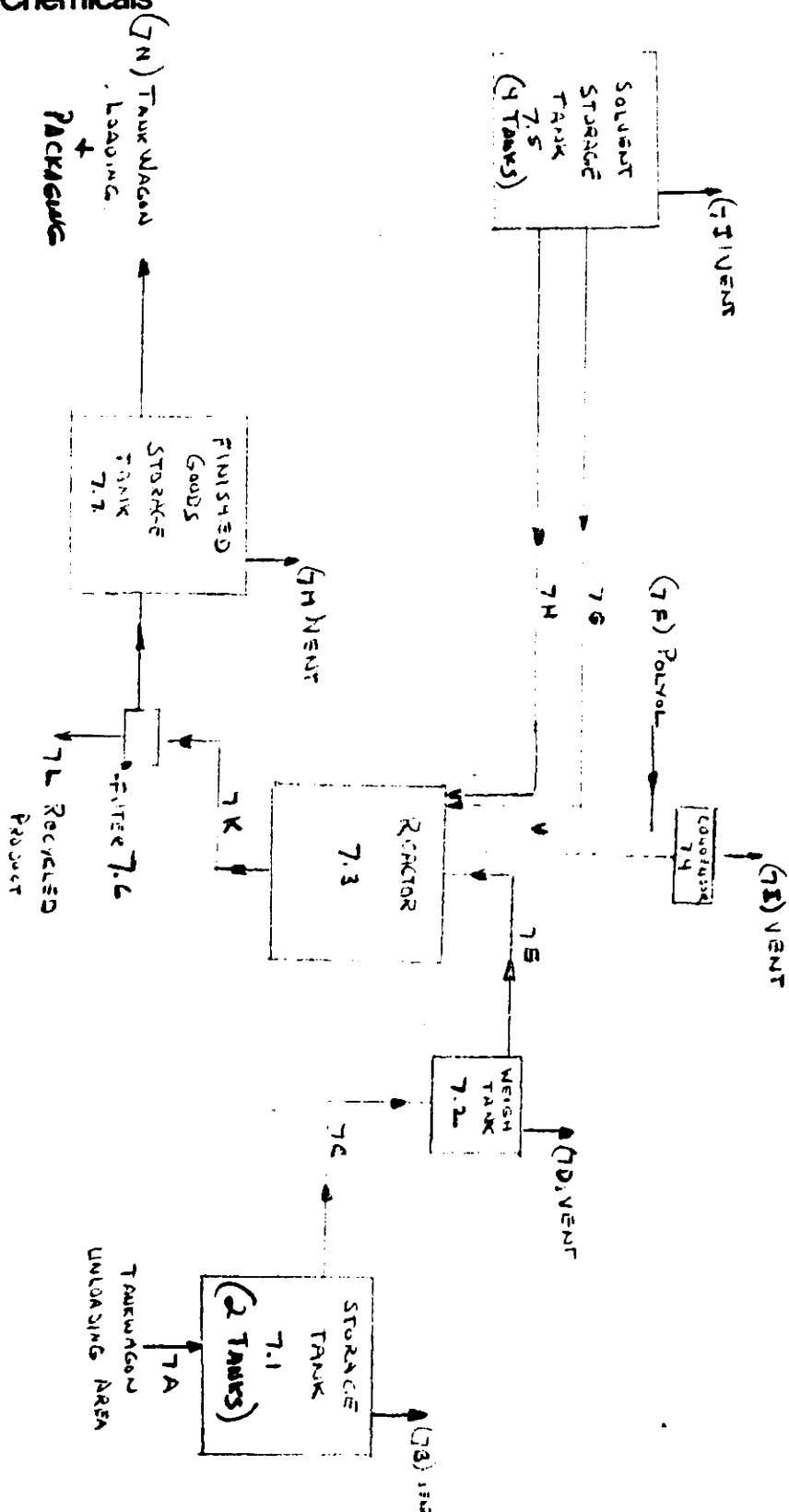
CBI

☐ Process type ~~Batch Process Blocked, Moisture and Oil Modified Urethane~~

☐ Mark (X) this box if you attach a continuation sheet.

CATCH PROCESS - BLOCKED BY REACTION
 - Moisture CURE URETHANE
 - OIL MODIFIED URETHANE

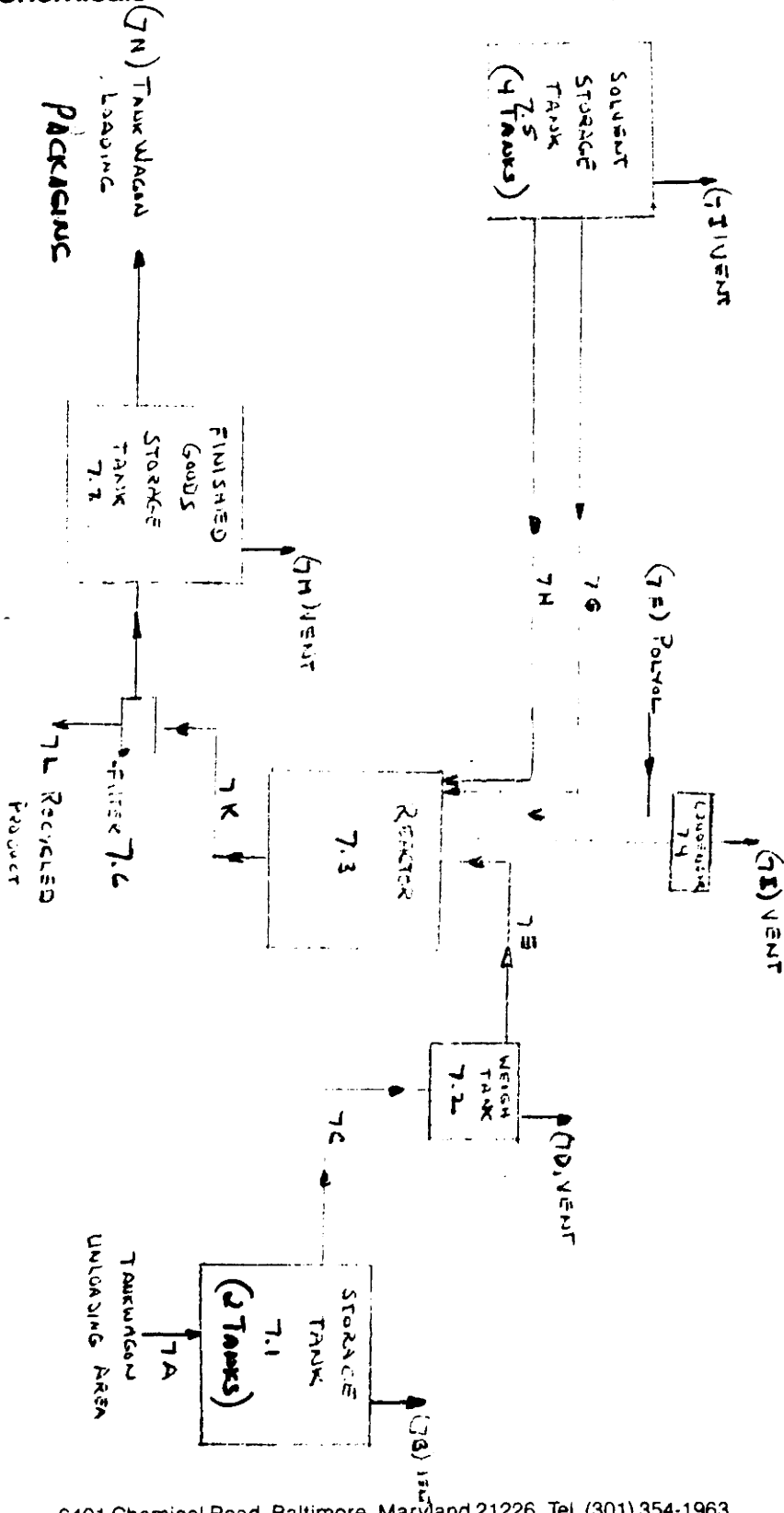
} All THREE MAJOR PROCESSES SIMILAR } → URETHANE POLYMER



BATCH PROCESS - UNLOADED UNREINFORCED
 - Moisture Cure URETHANE
 - OR MOISTURE CURE URETHANE
 All THREE MAJOR Processes Similar → URETHANE POLYMER

BEST COPY AVAILABLE

Spencer Kellogg Products
 Chemicals



-
- 7.03 In accordance with the instructions, provide a process block flow diagram showing all process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

CBI

☐ Process type

☐ Mark (X) this box if you attach a continuation sheet.

7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

[1] Process type _____

<u>Unit Operation ID Number</u>	<u>Typical Equipment Type</u>	<u>Operating Temperature Range (°C)</u>	<u>Operating Pressure Range (mm Hg)</u>	<u>Vessel Composition</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

[☐] Mark (X) this box if you attach a continuation sheet.

7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

[1] Process type _____

<u>Process Stream ID Code</u>	<u>Process Stream Description</u>	<u>Physical State</u> ¹	<u>Stream Flow (kg/yr)</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

¹Use the following codes to designate the physical state for each process stream:

GC = Gas (condensable at ambient temperature and pressure)
 GU = Gas (uncondensable at ambient temperature and pressure)
 SO = Solid
 SY = Sludge or slurry
 AL = Aqueous liquid
 OL = Organic liquid
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

[☐] Mark (X) this box if you attach a continuation sheet.

CBI

[1]

[illegible]

7.06

[]

7.06 (continued)

¹For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
1		
2		
3		
4		
5		

²Use the following codes to designate how the concentration was determined:

A = Analytical result
E = Engineering judgement/calculation

³Use the following codes to designate how the concentration was measured:

V = Volume
W = Weight

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 8 RESIDUAL TREATMENT GENERATION, CHARACTERIZATION, TRANSPORTATION, AND
MANAGEMENT

General Instructions:

For questions 8.04-8.06, provide a separate response for each residual treatment block flow diagram provided in question 8.01, 8.02 or 8.03. Identify the process type from which the information is extracted.

For questions 8.05-8.33, the Stream Identification Codes are those process streams listed in either the Section 7 or Section 8 block flow diagrams which contain residuals for each applicable waste management method.

For questions 8.07-8.33, if residuals are combined before they are handled, list those Stream Identification Codes on the same line.

Questions 8.09-8.33 refer to the waste management activities involving the residuals identified in either the Section 7 or Section 8 block flow diagrams. Not all Stream Identification Codes used in the sample answers (e.g., for the incinerator questions) have corresponding process streams identified in the block flow diagram(s). These Stream Identification codes are for illustrative purposes only.

For questions 8.11-8.33, if you have provided the information requested on one of the EPA Office of Solid Waste surveys listed below within the three years prior to your reporting year, you may submit a copy or reasonable facsimile in lieu of answering those questions which the survey addresses. The applicable surveys are: (1) Hazardous Waste Treatment, Storage, Disposal, and Recycling Survey; (2) Hazardous Waste Generator Survey; or (3) Subtitle D Industrial Facility Mail Survey.

☐ Mark (X) this box if you attach a continuation sheet.

PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.01.

CBI

☒ Process type

☐ Mark (X) this box if you attach a continuation sheet.

8.02 In accordance with the instructions, provide residual treatment block flow diagram(s) which describe each of the treatment processes used for residuals identified in question 7.02.

CBI

☐ Process type

☐ Mark (X) this box if you attach a continuation sheet.

8.03 In accordance with the instructions, provide residual treatment block flow diagram(s) which describe each of the treatment processes used for residuals identified in question 7.03.

CBI

☐ Process type

☐ Mark (X) this box if you attach a continuation sheet.

8.04 Describe the typical equipment types for each unit operation identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type

Unit Operation ID Number
(as assigned in questions
8.01, 8.02, or 8.03)

Typical Equipment Type

☐ Mark (X) this box if you attach a continuation sheet.

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

[illegible]

☐ Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

¹Use the following codes to designate the type of hazardous waste:

I = Ignitable
C = Corrosive
R = Reactive
E = EP toxic
T = Toxic
H = Acutely hazardous

²Use the following codes to designate the physical state of the residual:

GC = Gas (condensable at ambient temperature and pressure)
GU = Gas (uncondensable at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

³For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		

⁴Use the following codes to designate how the concentration was determined:

A = Analytical result

E = Engineering judgement/calculation

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

⁵Use the following codes to designate how the concentration was measured:

V = Volume

W = Weight

⁶Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e.

<u>Code</u>	<u>Method</u>	<u>Detection Limit</u> <u>(± ug/l)</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		
<u>6</u>		

☐ Mark (X) this box if you attach a continuation sheet.

8.06 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

☐ Process type _____

a.	b.	c.	d.	e.		f.	g.
Stream ID Code	Waste Description Code ¹	Management Method Code ²	Residual Quantities (kg/yr)	Management of Residual (%)		Costs for Off-Site Management (per kg)	Changes in Management Methods
				On-Site	Off-Site		
_____	_____	_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____	_____

¹Use the codes provided in Exhibit 8-1 to designate the waste descriptions

²Use the codes provided in Exhibit 8-2 to designate the management methods

☐ Mark (X) this box if you attach a continuation sheet.

These waste description codes were developed specifically for this survey to supplement the descriptions listed with the RCRA and other waste codes. (These waste description codes are not regulatory definitions.)

A01 Spent solvent (F001, F005, K086)	A06 Contaminated soil or cleanup residue	A10 Incinerator ash
A02 Other organic liquid (F001, F005, K086)	A07 Other F or K waste, exactly as described*	A11 Solidified treatment residue
A03 Still bottom (F001, F005, K086)	A08 Concentrated off-spec or discarded product	A12 Other treatment residue (specify in "Facility Notes")
A04 Other organic sludge (F001, F005, K086)	A09 Empty containers	A13 Other untreated waste (specify in "Facility Notes")
A05 Wastewater or aqueous mixture		

* Exactly as described means that the waste matches the description of the RCRA waste code.

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EXHIBIT 8-2.
(Refers to question 8.06(c)).

MANAGEMENT METHODS

- M1 = Discharge to publicly owned
wastewater treatment works
M2 = Discharge to surface water under
NPDES
M3 = Discharge to off-site, privately
owned wastewater treatment works
M4 = Scrubber: a) caustic; b) water;
c) other
M5 = Vent to: a) atmosphere; b) flare;
c) other (specify) _____
M6 = Other (specify) _____

TREATMENT AND RECYCLING

Incineration/thermal treatment

- 1I Liquid injection
2I Rotary or rocking kiln
3I Rotary kiln with a liquid injection
unit
4I Two stage
5I Fixed hearth
6I Multiple hearth
7I Fluidized bed
8I Infrared
9I Fume/vapor
10I Pyrolytic destructor
11I Other incineration/thermal
treatment

Reuse as fuel

- 1RF Cement kiln
2RF Aggregate kiln
3RF Asphalt kiln
4RF Other kiln
5RF Blast furnace
6RF Sulfur recovery furnace
7RF Smelting, melting, or refining
furnace
8RF Coke oven
9RF Other industrial furnace
10RF Industrial boiler
11RF Utility boiler
12RF Process heater
13RF Other reuse as fuel unit

Fuel Blending

- 1FB Fuel blending

Solidification

- 1S Cement or cement/silicate processes
2S Pozzolanic processes
3S Asphaltic processes
4S Thermoplastic techniques
5S Organic polymer techniques
6S Jacketing (macro-encapsulation)
7S Other solidification

Recovery of solvents and liquid organics
for reuse

- 1SR Fractionation
2SR Batch still distillation
3SR Solvent extraction
4SR Thin-film evaporation
5SR Filtration
6SR Phase separation
7SR Dessication
8SR Other solvent recovery

Recovery of metals

- 1MR Activated carbon (for metals
recovery)
2MR Electrodialysis (for metals
recovery)
3MR Electrolytic metal recovery
4MR Ion exchange (for metals recovery)
5MR Reverse osmosis (for metals
recovery)
6MR Solvent extraction (for metals
recovery)
7MR Ultrafiltration (for metals
recovery)
8MR Other metals recovery

Wastewater Treatment

After each wastewater treatment type
listed below (1WT - 66WT) specify
a) tank; or b) surface impoundment
(i.e., 63*Ta)

Equalization

- 1WT Equalization

Cyanide oxidation

- 2WT Alkaline chlorination
3WT Ozone
4WT Electrochemical
5WT Other cyanide oxidation

General oxidation (including
disinfection)

- 6WT Chlorination
7WT Ozonation
8WT UV radiation
9WT Other general oxidation

Chemical precipitation¹

- 10WT Lime
11WT Sodium hydroxide
12WT Soda ash
13WT Sulfide
14WT Other chemical precipitation

Chromium reduction

- 15WT Sodium bisulfite
16WT Sulfur dioxide

EXHIBIT 8-2. (continued)

MANAGEMENT METHODS

17WT Ferrous sulfate	48WT Coalescing plate separation
18WT Other chromium reduction	49WT Other oil skimming
Complexed metals treatment (other than chemical precipitation by pH adjustment)	Other liquid phase separation
19WT Complexed metals treatment	50WT Decanting
	51WT Other liquid phase separation
Emulsion breaking	Biological treatment
20WT Thermal	52WT Activated sludge
21WT Chemical	53WT Fixed film-trickling filter
22WT Other emulsion breaking	54WT Fixed film-rotating contactor
	55WT Lagoon or basin, aerated
Adsorption	56WT Lagoon, facultative
23WT Carbon adsorption	57WT Anaerobic
24WT Ion exchange	58WT Other biological treatment
25WT Resin adsorption	
26WT Other adsorption	Other wastewater treatment
	59WT Wet air oxidation
Stripping	60WT Neutralization
27WT Air stripping	61WT Nitrification
28WT Steam stripping	62WT Denitrification
29WT Other stripping	63WT Flocculation and/or coagulation
	64WT Settling (clarification)
Evaporation	65WT Reverse osmosis
30WT Thermal	66WT Other wastewater treatment
31WT Solar	
32WT Vapor recompression	OTHER WASTE TREATMENT
33WT Other evaporation	
	1TR Other treatment
Filtration	2TR Other recovery for reuse
34WT Diatomaceous earth	
35WT Sand	ACCUMULATION
36WT Multimedia	
37WT Other filtration	1A Containers
	2A Tanks
Sludge dewatering	STORAGE
38WT Gravity thickening	
39WT Vacuum filtration	1ST Container (i.e., barrel, drum)
40WT Pressure filtration (belt, plate and frame, or leaf)	2ST Tank
41WT Centrifuge	3ST Waste pile
42WT Other sludge dewatering	4ST Surface impoundment
	5ST Other storage
Air flotation	DISPOSAL
43WT Dissolved air flotation	
44WT Partial aeration	1D Landfill
45WT Air dispersion	2D Land treatment
46WT Other air flotation	3D Surface impoundment (to be closed as a landfill)
	4D Underground injection well
Oil skimming	
47WT Gravity separation	

¹ Chemical precipitation is a treatment operation whereby the pH of a waste is adjusted to the range necessary for removal (precipitation) of contaminants. However, if the pH is adjusted solely to achieve a neutral pH, THE OPERATION SHOULD BE CONSIDERED NEUTRALIZATION (60WT).

PART C TRANSPORTATION OF RESIDUALS TO OFF-SITE FACILITIES

8.07 Identify any special handling instructions for the residuals identified in your
CBI process block or residual treatment block flow diagram(s). (Refer to the
instructions for an example.)

☐

Stream
ID
Code

Special Handling Instructions

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

8.08 Identify those construction materials that are recommended (compatible) for
CBI containing or transporting the listed substance, and those materials that you know
could cause a dangerous reaction or significant corrosion (incompatible) if they are
used to contain or transport the listed substance.

☐

Stream
ID
Code

Construction Materials

Compatible Containment Materials

Incompatible Containment Materials

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

8.09 Identify each off-site facility (including POTWs) that manages the residuals identified in your process block or residual treatment block flow diagram(s), and the quantity that each managed during the reporting year. Photocopy this question and complete it separately for each off-site facility.

[illegible]

[][] [][][][][]--[][][][]
State Zip Code

EPA Identification Number (i.e.,
Hazardous Waste Facility ID Number)

63

PART D ON-SITE RESIDUALS MANAGEMENT INFORMATION

8.10 Identification Permit Numbers -- List any applicable identification or permit numbers for your facility.

EPA National Pollutant Discharge Elimination System

(NPDES) Permit No.(s)
(discharges to surface water)

EPA Underground Injection Well

(UIC) Permit No.(s)
(underground injection of fluids)

EPA Point Source Discharge

(PSD) Permit No.(s)
(air emissions from point sources)

EPA Hazardous Waste Management

Facility Permit No.(s)

Other EPA Permits (specify)

.....
.....
.....

☐ Mark (X) this box if you attach a continuation sheet.

8.11 On-Site Storage or Treatment in Piles -- Complete this table for the five largest (by volume) piles that are used on-site to store or treat the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Pile	Quantity Managed per Year (cubic meters)	Under Roofed Structure (Y/N)	Type of Contain- ment Provided ¹	Synthetic Liner Base (Y/N) ²	Frequency of Transfer and/or Handling Operations ³	Stream ID Code
1						
2						
3						
4						
5						

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Use the following codes to designate the type of containment provided:

C = Complete (includes both dike containment and underground (leachate) containment)
P1 = Partial-1 (includes just dike containment)
P2 = Partial-2 (includes just underground (leachate) containment)
N = None

²Waste may lie directly on the synthetic liner or the liner may be covered with a clay layer

³Use the following codes to designate frequency of transfer and/or handling operations:

A = Daily
B = Weekly
C = Monthly
D = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

8.12 On-Site Storage or Treatment in Tanks -- Complete the following table for the five largest (by volume) tanks that are used on-site to store or treat the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Tank	Design Capacity (liters)	Quantity per Year (liters)	Treatment Types ¹	Average Length of Storage (days)	Part of Wastewater Treatment Train (Y/N) ²	Tank Covered (Y/N)	Type of Containment Provided ³	Stream ID Code
1								
2								
3								
4								
5								

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹ Indicate "S" for storage or use the codes provided in Exhibit 8-3 (which follows question 8.13) to designate treatment types

² Treatment train from which wastewater is discharged under a NPDES permit or through a sewer system to a publicly owned treatment works

³ Use the following codes to designate the type of containment provided:

C = Complete (includes both dike containment and underground (leachate) containment)
 P1 = Partial-1 (includes just dike containment)
 P2 = Partial-2 (includes just underground (leachate) containment)
 N = None

☐ Mark (X) this box if you attach a continuation sheet.

8.13 On-Site Storage, Treatment, or Disposal in Containers -- Complete the following table for the five largest (by volume) types of free standing containers that are used on-site to store, treat, or dispose of the residuals identified in your process block or residual treatment block flow diagram(s).

☐

<u>Container</u>	<u>Design Capacity (liters)</u>	<u>Quantity Stored per Year (liters)</u>	<u>Treatment Types¹</u>	<u>Average Length of Storage (days)</u>	<u>Average Daily Stored Quantity (liters)</u>	<u>Maximum Operational Storage Capacity (liters)</u>	<u>Storage Base Material²</u>	<u>Stream ID Code</u>
<u>1</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u>2</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u>3</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u>4</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u>5</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Indicate "S" for storage and use the codes provided in Exhibit 8-3 to designate treatment types

If residual is stored, indicate (Y/N) in parenthesis whether the storage area is designed and operated to collect and contain surface runoff

²Use the following codes to designate storage base materials:

A = Concrete

B = Asphalt

C = Soil

D = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

EXHIBIT 8-3
[REFERS TO QUESTIONS 8.12, 8.13, AND 8.29]

WASTEWATER TREATMENT TYPES

WASTEWATER TREATMENT	31WT Solar
Equalization	32WT Vapor recompression
1WT Equalization	33WT Other evaporation
Cyanide oxidation	Filtration
2WT Alkaline chlorination	34WT Diatomaceous earth
3WT Ozone	35WT Sand
4WT Electrochemical	36WT Multimedia
5WT Other cyanide oxidation	37WT Other filtration
General oxidation (including disinfection)	Sludge dewatering
6WT Chlorination	38WT Gravity thickening
7WT Ozonation	39WT Vacuum filtration
8WT UV Radiation	40WT Pressure filtration (belt, plate and frame, or leaf)
9WT Other general oxidation	41WT Centrifuge
Chemical Precipitation¹	42WT Other sludge dewatering
10WT Lime	Air flotation
11WT Sodium hydroxide	43WT Dissolved air flotation
12WT Soda ash	44WT Partial aeration
13WT Sulfide	45WT Air dispersion
14WT Other chemical precipitation	46WT Other air flotation
Chromium reduction	Oil skimming
15WT Sodium bisulfite	47WT Gravity separation
16WT Sulfur dioxide	48WT Coalescing plate separation
17WT Ferrous sulfate	49WT Other oil skimming
18WT Other chromium reduction	Other liquid phase separation
Complexed metals treatment (other than chemical precipitation by pH adjustment)	50WT Decanting
19WT Complexed metals treatment	51WT Other liquid phase separation
Emulsion breaking	Biological treatment
20WT Thermal	52WT Activated sludge
21WT Chemical	53WT Fixed film--trickling filter
22WT Other emulsion breaking	54WT Fixed film--rotating contactor
Adsorption	55WT Lagoon or basin, aerated
23WT Carbon adsorption	56WT Lagoon, facultative
24WT Ion exchange	57WT Anaerobic
25WT Resin adsorption	58WT Other biological treatment
26WT Other adsorption	Other wastewater treatment
Stripping	59WT Wet air oxidation
27WT Air stripping	60WT Neutralization
28WT Steam stripping	61WT Nitrification
29WT Other stripping	62WT Denitrification
Evaporation	63WT Flocculation and/or coagulation
30WT Thermal	64WT Settling (clarification)
	65WT Reverse osmosis
	66WT Other wastewater treatment

¹ Chemical precipitation is a treatment operation whereby the pH of a waste is adjusted to the range necessary for removal (precipitation) of contaminants. However, if the pH is adjusted solely to achieve a neutral pH, THE OPERATION SHOULD BE CONSIDERED NEUTRALIZATION (60WT).

8.14 On-Site Burning in Boilers -- Complete the following table for the five largest (by capacity) boilers that are used on-site to burn the residuals identified in your CBI process block or residual treatment block flow diagram(s).

[]

Boiler	Boiler Type ¹	Average Boiler Load ² (%)	Average Fuel Replacement Ratio ³ (%)	Stream ID Code
1				
2				
3				
4				
5				

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Use the following codes to designate boiler type:

F = Fire tube
W = Water tube

²Designate the average boiler load when firing residual (percent of capacity)

³Designate the average fuel replacement ratio as a percentage (heat-input basis)

[] Mark (X) this box if you attach a continuation sheet.

8.15 Complete the following table for the five largest (by capacity) boilers that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Boiler	Boiler Heat Capacity (heat input in kJ/hr)	Primary Boiler Fuel ¹
1		
2		
3		
4		
5		

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Use the following codes to designate the primary boiler fuel:

A = Oil
B = Gas
C = Coal

D = Wood
E = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

- 8.16 Provide the following information for the residuals identified in your process block or residual treatment block flow diagram(s) that are burned in on-site boilers. Photocopy this question and complete it separately for each boiler.

CBI

☐ Boiler number
Stream ID code(s)

	Residual, as Fired (or residual mixture if residuals are blended)	Boiler Fuel, as Fired (residual(s) plus primary fuel)
Btu content (J/kg)		
Average	_____	_____
Minimum	_____	_____
Total halogen content (% by wt.)		
Average	_____	_____
Maximum	_____	_____

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1
No 2

☐ Mark (X) this box if you attach a continuation sheet.

8.17 Complete the following table for the five largest (by capacity) boilers that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Boiler	Stream ID Code	Listed Metal ¹	Total Metal Content (% by weight)	
			Avg.	Max.
<u>1</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
		<u> </u>	<u> </u>	<u> </u>
		<u> </u>	<u> </u>	<u> </u>
<u>2</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
		<u> </u>	<u> </u>	<u> </u>
		<u> </u>	<u> </u>	<u> </u>
<u>3</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
		<u> </u>	<u> </u>	<u> </u>
		<u> </u>	<u> </u>	<u> </u>
<u>4</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
		<u> </u>	<u> </u>	<u> </u>
		<u> </u>	<u> </u>	<u> </u>
<u>5</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
		<u> </u>	<u> </u>	<u> </u>
		<u> </u>	<u> </u>	<u> </u>

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹A listed metal is either an EP toxic metal or a metal that is included on the California List (as defined in section 3004(d)(2) of the Resource Conservation and Recovery Act)

☐ Mark (X) this box if you attach a continuation sheet.

8.19 Stack Parameters -- Provide the following information for each of the five largest (by capacity) boilers that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each boiler.

CBI

☐ Boiler number

Stack height m
Stack inner diameter (at outlet) m
Exhaust temperature °C
Vertical or horizontal stack (V or H)
Annual emissions for the listed substance kg/yr
Height of attached or adjacent building m
Width of attached or adjacent building m
Building cross-sectional area m²
Emission exit velocity m/sec
Average emission rate of exit stream kg/min
Maximum emission rate of exit stream kg/min
Average duration of maximum emission rate of exit stream min
Frequency of maximum emission rate of exit stream times/year

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

☐ Mark (X) this box if you attach a continuation sheet.

8.20 On-Site Burning in Incinerators -- Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in CBI your process block or residual treatment block flow diagram(s).

☐

Incinerator	Incinerator Type ¹	Primary Incinerator Fuel ²	Average Fuel Replacement Ratio ³	Stream ID Code
1				
2				
3				

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Use the following codes to designate the incinerator type:

1I = Liquid injection	6I = Multiple hearth
2I = Rotary or rocking kiln	7I = Fluidized bed
3I = Rotary kiln with a liquid injection unit	8I = Infrared
4I = Two stage	9I = Fume/vapor
5I = Fixed hearth	10I = Pyrolytic destructor
	11I = Other (specify) _____

²Use the following codes to designate the primary incinerator fuel:

A = Oil	D = Wood
B = Gas	E = Other (specify) _____
C = Coal	

³Designate the percentage of auxiliary fuel used when firing residual (percent of capacity)

☐ Mark (X) this box if you attach a continuation sheet.